



Collective Vigilance in the Greater Kudu: Towards a Better Understanding of Synchronization Patterns

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Résumé en anglais Collective detection of predators is one of the main advantages of living in groups in prey species. However, the mechanisms linking individual and collective vigilance remain largely unknown. Here, we investigated individual and collective vigilance in a natural population of greater kudu (*Tragelaphus strepsiceros*), a gregarious ruminant living under high predation risk. Controlling for environmental, individual and group factors, we show that the proportion of time during which at least one individual was vigilant increased with group size, whereas individual investment in vigilance decreased. We also show that individuals tended to synchronize both vigilance and feeding activities. More generally, and whatever the considered group size, we demonstrate how the independent scanning assumption underestimated both the proportion of time during which no individual was vigilant and the proportion of time during which all individuals were simultaneously vigilant, but overestimated the proportion of time during which one vigilant individual only was present. Our results thus contrast with the point of view that the alternative to independent vigilance is coordinated vigilance and plead for a better description of the processes whereby reciprocal influences between individuals shape collective patterns of vigilance.

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